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**Mosquitoes.**

Mosquitoes were reported to be present in every county in the State. In 65, *Anopheles* were reported. The reports on the species of mosquitoes were as follows:

Species.	Number of counties.			
	August.	September.	October.	November.
<i>Anopheles</i> .....	17	22	25	30
<i>Anopheles</i> and <i>Culex</i> .....	27	18	25	16
<i>Anopheles</i> and <i>Stegomyia</i> ( <i>Aedes</i> ) <i>calopus</i> .....	4	5	6	4
<i>Anopheles</i> , <i>Culex</i> , and <i>Stegomyia</i> ( <i>Aedes</i> ) <i>calopus</i> .....	17	14	9	3
<i>Stegomyia</i> ( <i>Aedes</i> ) <i>calopus</i> .....	0	1	0	0
<i>Culex</i> .....	1	1	0	0
Unknown.....	13	16	12	18
Not stated.....	0	0	1	0
None.....	0	0	0	2
No report.....	0	2	1	6
Total.....	79	79	79	79

Swamps and poorly drained lands are said to exist in every county in the State.

## SANITARY CONDITIONS IN ALASKA.

### A REPORT UPON THE DISEASES FOUND AMONG THE INDIANS OF SOUTHEASTERN ALASKA.

By EMIL KRULISH, Passed Assistant Surgeon, United States Public Health Service.

During November and December, 1913, the villages of Petersburg, Klukwan, Haines, Klawock, Kake, Hoonah, Saxman, Metlakahtla, Kasaan, Ketchikan, Juneau, Sitka, Douglas, Wrangell, Yakutat, Hydaburg, Killisnoo, and Skagway were visited. I personally examined all natives in these settlements at the time and special effort was made to determine the number infected with tuberculosis, trachoma, and syphilis.

The native population of southeastern Alaska is approximately 5,200, but due to the nomadic life which these people lead, the number inspected was 2,494.

The routine of examination was similar to the methods employed by officers at the immigration stations in the inspection of arriving aliens. The examination of Indians in their homes is necessarily difficult and inconvenient and while this report may not be absolutely accurate, it is sufficiently reliable for all practical purposes and as correct as it could be made under existing circumstances. A table accompanying this report represents the results of this survey in detail.

### **Tuberculosis.**

The number of tuberculous cases detected was 197, or 7.9 per cent of the number examined. This includes all forms of tuberculosis. The percentage of pulmonary tuberculosis in the district was found to be about 5.4 per cent, which varied in the different villages, while the greatest proportion of cases was noted at Haines—13.9 per cent. These figures indicate the actual number of active tuberculous infections.

Considering the overcrowding and the insanitary conditions which prevail in the majority of native homes harboring tuberculous cases, the percentage of infection is remarkably low. An important factor in diminishing contagion is the fact that after the disease is well developed in these natives, unless they receive proper care and treatment, its progress is rapid and death removes what would otherwise remain a menace and a focus for infection.

An interesting feature in connection with pulmonary tuberculosis in the Alaska Indians is the frequent occurrence of profuse hemorrhages even in the early stages of the infection with apparently no other physical manifestations of the disease. Approximately 50 per cent of the cases gave histories of hemoptysis. Another fact which has an important bearing on the treatment of the disease is the manner in which these natives respond to the rest and open-air treatment. Marked improvement usually follows in a comparatively brief period.

Tuberculosis in the Indian is, however, not limited to the lungs. The bones, glands, and joints are frequently attacked and result in abscess formation, deformities, and cripples. I have seen several cases of advanced Pott's disease with complete paralysis of the lower extremities from pressure of the spine on the cord in the region of the necrosis.

### **Syphilis.**

The accurate number of syphilitics in the district is difficult to determine, for the objective symptoms of the disease are not always manifested and to elicit a reliable history of previous indications is absolutely impossible. The disease is more prevalent in those communities situated near white settlements than in the isolated villages. Seventy individuals, or 2.8 per cent of the natives examined, exhibited signs of syphilitic infection.

### **Eye Diseases.**

Eye diseases (trachoma, keratitis, cataract, pterygium, and conjunctivitis) are common among the natives of southeastern Alaska. Thirteen per cent of those examined showed evidences of having had some form of eye trouble. Trachoma was found in 2 per cent and

11 individuals, or 20 per cent of these, were blind from the effects of it. The percentage of trachoma varies in the different settlements from 1.3 per cent at Douglas to 9 per cent at Yakutat. In 6 settlements no cases of the disease were detected.

There is no doubt in my mind as to the contagious character of trachoma, for I have repeatedly been able to select all members of one family out of a group of persons simply by the examination of their eyelids for the presence of trachoma. In the families thus segregated, usually the parents were totally or partially blind, the older children exhibited the advanced stages of the disease, while the younger children showed indications of recent infection.

Testing the sight for refractive errors was prevented by the lack of proper facilities, but it was observed that presbyopia appeared in comparatively young people. Cataracts were likewise frequently detected, and these also occurred at an early age. It was not uncommon to see well-advanced cataracts in natives of 35 years of age.

There is no doubt that the majority of the blindness and partial loss of vision in the district might have been prevented by proper care and treatment of the cases in the early stages of the disease.

#### **Adenoids and Enlarged Tonsils.**

Throat affections are common among the young people; approximately 20 per cent of those under 18 years of age have adenoids and hypertrophied or diseased tonsils requiring surgical attention. This predisposes these individuals to tuberculosis, diphtheria, and other throat infections, impairs their hearing, retards their mental development, and results in deformities of the jaws, mouth, teeth, and palate. These sequelæ of adenoids and diseased tonsils are seen too frequently in every native settlement.

#### **Rheumatism.**

The damp climate of southeastern Alaska is chiefly responsible for the large number of rheumatic complaints in this district. The rainfall in this section is exceedingly heavy and the natives are necessarily exposed to the elements by virtue of their business—hunting and fishing. A number of severe cases of arthritis deformans were noted.

#### **Other Diseases.**

Epidemics of scarlet fever, measles, influenza, whooping cough, and diphtheria were reported during the year at the different villages. The mortality resulting from infectious diseases is usually exceedingly high, owing to the complications arising from lack of care and proper treatment. Bronchitis is prevalent during all seasons. Gun-

shot wounds and infected sores are of frequent occurrence. As a result of eating improperly prepared food and of the almost exclusive meat diet, digestive disturbances are likewise common.

#### **The Relation of the Indian to the Community.**

The majority of natives of southeastern Alaska are located near the whites; they trade in the same stores, work in the same mines and canneries, and the two races intermingle freely in public places. Indians are by nature very sociable and indulge very frequently in feasts, dances, and other ceremonies. On these occasions hundreds of them often gather from all sections of the district. All these factors contribute to the dissemination of communicable diseases not only among them but also among the white population. The Indian is therefore an important factor in relation to the health of the community, and this fact can not be lost sight of and should receive due consideration.

The monthly reports of teachers in the Alaska school service for the fiscal year ending June 30, 1913, indicate the proportion between births and deaths per thousand in southeastern Alaska to be 41 to 47, or a decrease of 6 per thousand of the population. It is apparent that unless proper medical and sanitary relief is extended to these natives in the near future, the dissemination of disease will continue among them, and in time the Indian race of Alaska will be exterminated.

#### **Health Work of the Bureau of Education.**

The Bureau of Education is cognizant of this alarming condition and its officials are waging a heroic struggle in attempting to prevent the excessive mortality, but with its present resources the work is necessarily limited and inadequate to the demand.

A part of the appropriation for the education of natives of Alaska is being expended for the maintenance of three improvised hospitals in schoolhouses and for salaries of several physicians and nurses. All schools are supplied with a medicine chest containing simple remedies accompanied by a medical handbook explaining the use of the drugs, and the teachers are directed to devote special attention to improving sanitary conditions in the homes and villages. Lectures are delivered at meetings on tuberculosis, eye diseases, ventilation, care of infants, preparation of food, and other subjects relating to prophylactic measures of the common diseases. Paper towels and individual drinking cups have been introduced into the schools this current year and their value has been explained to the pupils. Various bulletins of the Public Health Service on appropriate subjects have been distributed to the field workers for their instruction and guidance.

*Diseases found among natives of southeastern Alaska.*

[Estimated population, 5,200; number examined, 2,494.]

	Cases.	Remarks.
Trachoma.....	52	2 per cent.
Corneal opacity.....	86	
Pterygium.....	25	
Conjunctivitis.....	23	
Cataract.....	37	
Keratitis.....	31	
Blindness, both eyes.....	36	11 due to trachoma.
Blindness, one eye.....	35	
Optic atrophy.....	1	Total eye cases 326, or 13 per cent.
Tuberculosis, pulmonary.....	135	5.4 per cent.
Tuberculosis, osseous.....	36	
Tuberculosis, glandular.....	20	
Tuberculosis, laryngeal.....	4	
Tuberculosis, dermal.....	2	Total cases tuberculosis, 197—7.9 per cent.
Syphilis.....	70	2.8 per cent.
Rheumatism, complaints.....	408	16.3 per cent.
Lumbago.....	8	
Arthritis deformans.....	6	
Adenoids and enlarged tonsils.....	142	5.6 per cent.
Pneumonia.....	4	
Pleurisy.....	4	
Organic cardiac disease.....	9	
Aneurism subclavian artery.....	1	
Eczema.....	5	
Scabies.....	18	
Deafness.....	7	
Mastoiditis.....	3	
Harelip.....	1	
Paralysis agitans.....	1	
Hemiplegia.....	3	
Bell's palsy.....	1	
Epilepsy.....	2	
Imbecility.....	5	
Dementia.....	1	
General paresis.....	1	
Hysteria.....	1	
Lipoma, multiple.....	1	
Hemorrhoids.....	2	
Carcinoma, rectum.....	1	
Carbuncle.....	1	
Clubfoot.....	2	
Fractured clavicle.....	2	
Total cases.....	1,233	Or 49.4 per cent.

Record of births and deaths in the district compiled from the monthly reports of teachers. Births 41 per thousand, deaths 47 per thousand, a decrease of 6 per thousand of population.

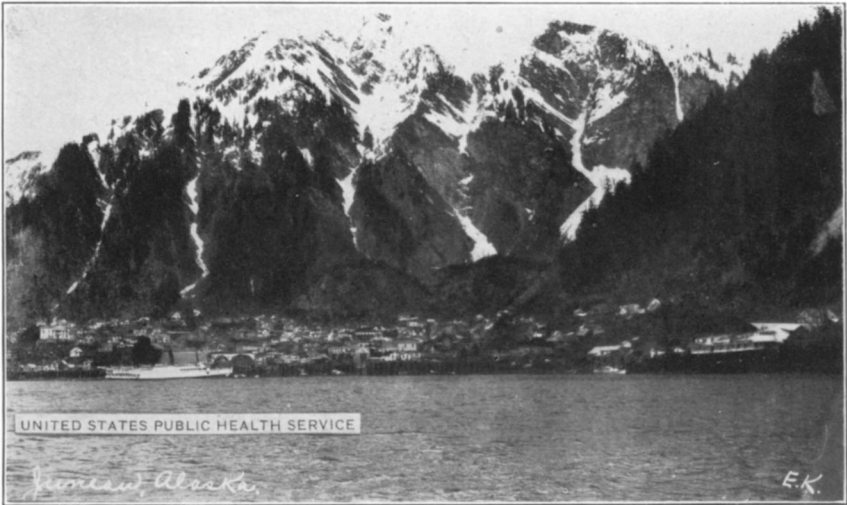


FIG. 1.—THE TOWN OF JUNEAU, THE CAPITAL OF ALASKA. POPULATION, 4,500



FIG. 2.—INDIANS OF SOUTHEASTERN ALASKA. THE THLINGET TRIBE.



FIG. 3.—INDIAN BOYS. THE THLINGET TRIBE.



FIG. 4.—INDIAN CHILDREN. THE THLINGET TRIBE.



FIG. 5.—KLUKWAN, AN INDIAN VILLAGE ON THE CHILCAT RIVER IN SOUTH-EASTERN ALASKA.





FIG. 6.—INDIAN VILLAGE OF HOONAH.

This settlement has a population of 400 and represents a typical Indian village in southeastern Alaska.



FIG. 7.—INDIAN FISH CAMP.

This summer life is very beneficial to those suffering with tuberculosis.

Public Health Reports, May 22, 1914.



FIG. 8.—INDIAN FISH CAMP